

MEETING MINUTES

MEETING DATE: March 25, 1993

MEETING LOCATION: EPA Office, Denver Place, Downtown Denver

ATTENDEES: Bill Fraser (BF) EPA
Bonnie Lavelle (BL) EPA
Harlen Ainscough (HA) CDH
Diane Niedzwiecki (DN) CDH
Norma Castaneda (NC) DOE/ERD
Pete Laurin (PL) EG&G
Rick Roberts (RR) EG&G
Susan Buth (SB) W-C
John Jehn (JJ) W-C
Patricia Westphal (PW) W-C
Jon Pierre Girod (JG) W-C

PURPOSE OF MEETING: To discuss the status of Operable Unit 6 (OU6) at the Rocky Flats Plant and to review the OU6 field investigation and risk assessment activities.

MINUTES: The meeting began at approximately 8:45 am, and adjourned at approximately 11:00 am.

NC introduced the meeting saying that all present have mutual goals, and that this meeting served to keep all up to date on OU6.

PL introduced the agenda (attached) stating the meeting would cover risk assessment and the field program. The Environmental Evaluation (EE) is not included in today's meeting but will be the subject of another meeting in the future. BF suggested that an EE meeting could cover both OU5 and OU6 at the same time. Covering both OUs would be more efficient.

RR introduced PW. PW presented proposed exposure scenarios for OU6. (A packet of copies of overheads, OU6 conceptual site model, and OU6 map were passed out to all meeting participants.) Potential receptors have been selected following EPA guidance. The receptors were described as follows:

- Current off-site resident - current resident at the nearest downwind location
- Current on-site worker - an example would be a security guard
- Future on-site worker - an office worker at a future office building on OU6
- Future on-site construction worker - this person would be exposed to subsurface soils
- Future on-site eco-worker - this scenario would capture outdoor exposure to creeks, ponds and surface soil
- Future on-site resident - This scenario may not be a probable future use but it provides an upper bound scenario
- Future off-site resident - This would be a resident at Walnut Creek and Indiana Street

DN asked if the risk assessment would take into consideration the nearest off-site resident with exposure to Walnut Creek. PW responded that the exposure would be captured in the on-site

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worker scenario and the future off-site resident scenario.

DN asked how the scenarios would be assessed, by IHSS? PW and RR stated this would be discussed later.

BL asked why the future on-site commercial/industrial worker had been eliminated. PW responded that this is covered by the future on-site office worker. BL asked why off-site receptors should be included since these would be covered by OU3. RR responded that OU6 could contribute to off-site risks not addressed by OU3. BL stated that they were trying to include the area west of Indiana Street in OU3. RR stated that it might be included in the Comprehensive Risk Assessment.

PW started description of exposure routes for each receptor. BF asked if these were the same as OU1 and OU2, in which case they need not be repeated. RR stated that the exposure routes are similar to OU1 and OU2, which may change during negotiations currently in process. OU6 also includes stream and pond sediments which may not be addressed in other OUs. PW reviewed overheads for current off-site resident, current on-site worker, future on-site worker, and future on-site construction worker. BL asked if the exposure for future on-site construction worker will be sub-chronic. PW stated it is currently under discussion for other OUs but would likely follow guidance. PW described exposure routes for a future on-site eco-worker, and a future on-site resident. The resident does not include exposure to groundwater since groundwater in OU6 does not appear to be suitable for water supply. The exposure routes for a future off-site resident are the same as for the current off-site resident with the addition of sediments and surface water in Walnut Creek.

HA asked if the risk assessment would look at the worst case IHSSs, such as the Triangle Area. Does it take IHSSs into account? RR began his discussion on exposure areas. He is proposing an operable unit risk assessment. Beginning with the surface water pathway, exposure to any surface water location is a probabilistic event and is OU wide. The same is true of inhalation; air will be inhaled from all the IHSSs. For soil ingestion, the assessment will use reasonable maximum exposures with (95% upper confidence levels on the mean across the entire unit. DN - Will you average everything in? RR - Yes. DN - Then will you look at each IHSS, like the Triangle Area and a house on that site? RR - No, the worst case is already represented since the sampling was IHSS specific. BL - In effect, won't you pull everything in with your chemicals of concern (COCs)? RR- yes. DN stated that she was concerned about dilution, and the potential to dilute out COCs using an OU-wide approach. RR stated that "hot spots", which are part of the guidance, would be evaluated.

HA stated that the public may only care about the risks at one specific residential location. How will you assure you are protecting the public at that point? RR reviewed the contaminant concentration curve with the 95% UCL and reviewed guidance. EPA had selected all the IHSSs to be the OU. HA - What if each IHSS were an OU? You would do individual risk assessments then. RR - True, but the IAG specified 16 OUs at Rocky Flats.

BL stated that guidance allows you to evaluate the whole site, but you must look at hot spots; it is not reasonable to look at long term exposures to maximum concentrations. RR stated that the risk assessment will look at "waste-related hot spots" and then do spatial analysis. HA stated that the IHSSs are the concern. DN - Are you going to determine IHSS-specific risks? RR - No, because exposure, such as the eco-worker, will not be localized to an IHSS. HA - Residents are getting exposed at a specific point; others may not.

BF stated that this discussion has been previously conducted and that the risk assessment area issue is currently being resolved on other OUs. He suggested waiting for resolution on the other OUs. The issue will not be resolved in today's meeting. HA stated CDH is not necessarily on board with the approach. BL does not want to get "too ridiculous" on calculating exposure point concentrations [i.e., that could result in overestimating probable exposures and risks (editor)]. She asked if it was worthwhile to do a future off-site resident since the assessment already includes a future on-site resident. RR defended the future off-site resident as more probable than the future on-site resident and a reasonable maximum off-site exposure. BL suggested that receptors should represent the most probable future scenarios. BF stated that land use projections in OU2 are out of date. RR stated that was all that is available at the present time. Others are being formulated but are not currently available. PL - Should we try to assign probabilities to future scenarios? BL - Yes, qualitatively.

Presentation of Field Activities

SB and JJ presented a review of the field activities conducted over the last several months at OU6. SB began with a discussion of the field investigation process and a discussion of field screening activities. JJ continued with an IHSS-by-IHSS description of the field sampling locations, media sampled, numbers of samples collected, and analytical parameters. HA asked how the boring locations were identified in IHSS 166. SB responded that the aerial photograph was the final document used to locate the trenches, and showed HA the historic photograph. PL explained that the sizes of IHSS 167 and IHSS 165 changed after additional investigation and prior to field sampling. SB, JJ, and PL explained the records search and relocation of IHSS 143. JJ mentioned the addition of sampling locations in IHSS 156.2 based on the aerial photographs. SB and PL also discussed the questions concerning the origin of materials in IHSS 156.2. JJ stated that only one radiation high was detected during radiation screening. That location was on the west side of IHSS 165. JJ stated that no stratification of water was encountered in the ponds during sampling. HA asked if the ponds were sampled during calm conditions, so that the wind would not be responsible for mixing. JJ stated that the ponds were sampled during calm conditions. The thickest sediments were approximately 24 inches thick, but sediments were generally 6 inches to one foot thick. Eleven wells were completed for OU6. None of the well locations encountered sandstone, so paired wells were not installed. Four wells had some water after drilling. PL - More may have water during the spring. Groundwater injection is a low probability scenario because there is no water.

BF asked a question if surficial soils will need to be collected in other areas of OU6 outside the IHSSs. OU2 surficial soil sampling was both biased and random. RR stated that the OU6 data were biased and no other sampling was planned. BF agreed that taking some surface samples from IHSSs and outside the IHSSs is appropriate for an OU-wide risk assessment, but wants to avoid an additional surface soil sampling. He asked if OU2 surficial soil data could be used for OU6 to indicate if the OU6 data are truly biased. RR stated that site-wide assessments would be made in the Comprehensive Risk Assessment, but that the data from OU2 would be reviewed.

DN asked what was being used for background in OU6. RR - the Rock Creek area is being used for surficial soils; the Background Geochemistry Report will be used for other media.

There was a five-minute intermission.

Upon reconvening, PL reviewed the upcoming OU6 field work. Quarterly ground water monitoring, surface water and sediment samples will be collected in the creek sites as described in Technical Memorandum 1 (now Appendix H to the Work Plan). The base flow sampling is planned for next

week (the week beginning March 29). This will be "worst-case" because the water has been standing through the winter and should have high concentrations of soluble constituents. The storm event is tentatively scheduled for May 15. BF asked if proposed surface water sampling duplicates sampling proposed for the EE. PL said it does not. In addition, HPGE radiation surveys will be performed in IHSS 156.2 and in the portion of IHSS 165 outside the PA fence.

BF asked about the schedule. PL said that the RI Report would be sent to the agencies in July 1994. The original schedule called for delivery on August 4, 1993. BF suggested that if the report is really going to be a year late, DOE should prepare an extension request. DOE will have to establish "good cause" for the extension. EPA and CDH will be looking for sound justification. BF requested that the extension request be sent as soon as DOE has reasonable confidence in the new delivery date. PL suggested that the request be delayed until June to allow time to assess the turn-around-time on the radionuclide analyses. He said that 80 to 90 percent of the delays were prior to the field work and that the field program had gone smoothly. HA acknowledged the efforts made in field implementation and reminded the group that much of the delay was due to late Work Plan approval. PL indicated that no provisions were made in the original schedule for procurement time following approval of the revised Work Plan. He also mentioned an organizational conflict of interest issue prior to field program, which took 6 to 7 weeks to resolve. BF stated that the schedule is a political issue, and the sooner it is resolved, the sooner all can get back to the technical issues.

BF ended the meeting with four items.

1. There should be a meeting similar to the meeting today on the EE. It can be combined with OU5. PL said he would schedule the EE meeting.
2. BF would like another meeting, or at least updates, when the chemical results come in, to see if there are any surprises in the data.
3. BF would like a schedule for the risk assessment technical memoranda so the agencies can schedule review time. They are trying to turn around the tech memos in two weeks.
4. DOE should work on the extension request and submit it as soon as possible.

**PROPOSED MEETING AGENDA OU6 RFI/RI
MARCH 25, 1993 AT EPA**

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| 8:30-8:45 | I. | INTRODUCTION - NORMA CASTANEDA, PETE LAURIN |
| 8:45-9:15 | II. | RISK ASSESSMENT - RICK ROBERTS, PAT WESTPHAL |
| 9:15-9:45 | III. | FIELD OPERATIONS - SUSAN BUTH, JOHN JEHN |
| | A. | INTRODUCTION |
| | B. | FIELD SCREENING |
| | C. | SAMPLING |
| | 1. | IHSS 141 - SLUDGE DISPERSAL AREA |
| | | <ul style="list-style-type: none">• Surficial Soil Sampling• Monitoring Well |
| | 2. | IHSS 143 - OLD OUTFALL |
| | | <ul style="list-style-type: none">• Surficial Soil Sampling• Soil Borings• Monitoring Wells |
| | 3. | IHSS 156.2 - SOIL DUMP AREA |
| | | <ul style="list-style-type: none">• Surficial Soil Sampling• Soil Borings• Monitoring Wells |
| 9:45-10:00 | | Break |
| 10:00-11:00 | 4. | IHSS 165 - TRIANGLE AREA |
| | | <ul style="list-style-type: none">• Surficial Soil Sampling• Soil Borings and Cores• Monitoring Wells |
| | 5. | IHSS 166 - TRENCHES A, B, AND C |
| | | <ul style="list-style-type: none">• Soil Borings• Monitoring Wells |
| | 6. | IHSS 167 - NORTH, POND, AND SOUTH SPRAY FIELD AREA |
| | | <ul style="list-style-type: none">• Surficial Soil Sampling• Soil Borings• Monitoring Wells |
| | 7. | IHSS 216.1 - EAST SPRAY FIELD AREA |
| | | <ul style="list-style-type: none">• Surficial Soil Sampling• Soil Borings• Monitoring Wells |
| | 8. | MONITORING WELLS |

PROPOSED MEETING AGENDA OU6 RFI/RI (CONTINUED)
MARCH 25, 1993 AT EPA

10:00-11:00 (Continued) 9. IHSS 142.1-9 & 142.12A - A AND B SERIES PONDS

- Surface Water and Sediment Sampling
- Dry Sediments
- Monitoring Wells

11:00-11:15 IV. FUTURE FIELD OPERATIONS, STREAM SAMPLING - PETE LAURIN

11:15-11:30 V. GENERAL DISCUSSION AND ADJOURN



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March 25, 1993

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